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HORMONE THERAPY—ITS USES AND ABUSES*

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I appreciate the privilege of participating in this historic meeting and trust that the presentation on the Uses and Abuses of Hormone Therapy is in the spirit of the ideals conceived by the founders one hundred and fifty years ago.

Endocrine disorders represent a hypo-function or hyper-function of one or more glands in the endocrine system. The majority of endocrine disorders requiring therapy are hypo-functional states, therefore they become deficiency disturbances. When we digress from this conception, we are diverging from accepted therapeutic principles of conservative medicine.

The pure hormones and the majority of endocrine preparations in use today are not inert substances of the past but are active therapeutic agents. The site of hormone action is not alone on superficial tissues but is as often remote and deep-seated. Estrogenic substances may produce, simultaneously, changes in the vaginal mucosa and in the pituitary basophile cells.

Thyroid therapy is the oldest, the most effective, and the most measurable, scientifically and clinically, of all the endocrine preparations. Murray¹ administered effectively glycerine extract of fresh sheep's gland to a forty-six-year-old female with myxedema. The patient received thyroid extract for twenty-nine years and died at the age of seventy-five years from natural causes. No case can better illustrate useful endocrine therapy. In contrast, X-ray examination of the wrist of an eighteen-month-old cretin who had been administered thyroid extract over a period of ten months revealed a bone age of eight

years. Another example of abuse of thyroid therapy is shown in the case of an eight-year-old female mongol, administered thyroid extract up to 1½ grains daily, who developed an advanced exophthalmus and thyrotoxicosis. The abuse of thyroid administration has been reported in adult cases, my most recent case being a lady treated for increased ocular tension. The therapeutic exophthalmus produced aggravated her condition.

Thyroid extract has a widespread cellular action in the human body. It increases metabolism, affects the blood chemistry, mobilizes calcium and sugar, and in growing individuals it may, as we have seen, accelerate cell metamorphosis and abnormal osseous growth may result.

Its known acceleration of cardiac, sympathetic and general nervous system function is well known. There are other physiological actions, but the point I wish to stress is that the administration of thyroid extract in humans and in animals has an extended sphere of activity in the body which must be evaluated when thyroid extract is prescribed. The abuse of thyroid extract is well illustrated in the treatment of obesity. Study of treated cases of pubertal and adolescent obesity reveals that increasing amounts of thyroid extract have been prescribed to control weight. On discontinuing thyroid extract, I find that there has been a progressive lowering of the basal metabolic rate and increased blood cholesterol. One can only infer, and the clinical studies support this opinion, that excessive and prolonged administration of thyroid releases the individual's thyroid gland from its physiological load, and disuse atrophy occurs.

There are two types of hypo-hypothyroidism: the primary resulting from pathological changes in the thyroid gland; and a secondary hypo-hypothyroidism resulting from anterior pituitary deficiency and lack of thyrotropic hormones. Combined primary and secondary

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hypothyroidism is best illustrated by the Frohlich syndrome. It is particularly in the secondary type of hypo-thyroidism that one finds thyroid extract used excessively. The symptoms and signs of hypo-thyroidism are variable. Only one symptom, such as sterility, amenorrhea, oedema of the eyelids, a nephritic or anemic appearance or retarded osseous development, may be present. Classical hypo-thyroidism is present only in the more advanced state of thyroid deficiency.

The thyroid gland normally increases its physiological output to meet increased body demands during late infancy, childhood, puberty, and adolescence, and also during pregnancy. A group of symptoms such as an over-weight condition, mental and physical sluggishness, and retardation of development should arouse a suspicion of hypo-thyroidism and a basal metabolism, blood cholesterol, and, in children, X-ray examination of osseous age should be determined.

The mental symptoms of hypo-thyroidism are important. The cretin presents the most advanced type of mental impairment associated with hypo-thyroidism. Early diagnosis and early and persistent thyroid therapy give the best results in cretinism, but Brown² states that, even under these circumstances, 75% of the cretins examined had an I. Q. below 80. The rapidity with which the physical features of cretinism disappear under treatment does not materially affect the ultimate mental prognosis. However, therapy should be maintained up to physiological limits in cretinism. This can be determined in young children by rectal temperature, a rise of 0.8 to 1° above normal in the absence of other febrile causes being a sign that thyroid tolerance is past and therapy should be temporarily discontinued. During puberty and adolescence, quite frequently a child who has been a fair or good student begins to fall in his scholastic rating. Associated with this there is frequently a tendency to increased weight, loss of outside interests, and failure of secondary sexual features to advance. One might term this a physiological hypo-thyroidism. Such cases respond quite well to the administration of anterior pituitary and thyroid extract, but at the lowest dosage possible. A similar therapeutic regime

applies to the Frohlich syndrome. Diet restriction is essential to successful therapy.

Pituitary: The anterior pituitary products available are the dried extracts and the crude purified liquid extracts of the pituitary gland. The Collip factors are standardized tropic factors obtained from the anterior pituitary lobe. Polyansyn is the normal combination of the various anterior pituitary factors, including maturity, thyrotropic, adrenotropic, and growth. The liquid extracts are administered in the advanced anterior pituitary deficiencies, such as Simmond's disease. They are administered from 1 to 2 cc. daily or every other day for from six to eight weeks. A rest period of from ten to fourteen days is given and therapy resumed. The same applies to the administration of growth, thyrotropic, gonadotropic and adrenotropic factors. Oral administration of pituitary products is claimed to be ineffective. However, Langdon-Brown, Zondek, and Goldzieher³ believe therapeutic action occurs when anterior pituitary is orally administered. It should be noted that acidification is used in the extraction process of many hormones, particularly the anterior pituitary. The main argument of the anti-oralists is that the pituitary extracts are destroyed by the acidity of the gastric juices. Dosage of anterior pituitary extract is regulated to the age of the child, from one to three grains daily being administered. Thyroid extract from 1/10 to 1/4 grain daily is combined with the above. In all cases of anterior pituitary deficiency we administer from three to six grains of calcium glycerophosphate daily. The results obtained by insufflations of posterior pituitary lobe extract, 1/2 to 3/4 grains daily, in diabetes insipidus and its superiority over pitressin by hypo effectively demonstrate that endocrine extracts can be absorbed through the mucous membrane.

Anterior pituitary-like substances are derived chiefly from the products of pregnancy, as the placenta, and the urine of pregnant women. The preparation should not be confused with that obtainable from the anterior pituitary gland or from pregnant mare's serum. The latter is similar in action to anterior pituitary factor or prolactin.

Pregnant mare's serum has been used in the various hypo-gonadal states such as male and female sterility, amenorrhea, and hypo-

menorrhoea. It is administered in various dosages beginning on the seventh day following the onset of the menses. 1 cc.* is given by hypo every other day for three doses and, about the twelfth day, 3 cc. are administered.

Anterior pituitary-like substances (Antuitrin-S, Folluetin, and A. P. L.) are widely used in the treatment of cryptorchidism and male hypogonadism. The proper treatment of cryptorchidism is at present a disputed topic.

Johnson⁴ reported five hundred and forty-four cases of cryptorchidism in over 31,000 boys, from ages seven to seventeen years, and found that spontaneous descent occurred in three hundred cases. The remaining number is accounted for by the annual 29% loss of members and sixty-three who had not been re-examined. In the majority of cases, spontaneous descent occurred in the pubertal years which corresponds to the age when the most favorable results have been obtained with A. P. L. therapy.

Johnson concludes:

"Do not operate for undescended testes before the sixteenth year unless operation is indicated by some associated condition."

"Glandular therapy before the age of puberty is useless and harmful, and at the age of puberty is unnecessary."

The incidence of spontaneous descent of the cryptorchid testes falls rapidly after the age of fourteen years. In evaluating conservative methods, it should be noted that Rae⁵ believes that only ten per cent of cryptorchid testes become fertile. Gordon-Taylor⁶ found that in fifty cases of malignancy of the testes, fifteen occurred in cryptorchid types.

Thompson⁷ made a clinical study of this condition and found that in only twenty per cent, as compared with the average of sixty-one per cent reported by others, did they feel that the administration of A. P. L. substances caused descent of the retained testes. Thompson has also reported precocious development of the penis and secondary sexual characteristics in cases administered A. P. L. in large doses and over an extended period, without appreciable effect upon the testes. The penis develops from a different embryonic site than the gonad, and I have observed precocious penile development in cases with marked infantile gonads.

*The unit content per cc. varies according to the method of standardization.

Among other unfavorable results reported from this therapy, beside the failure to cause descent of the testes and oedema of the scrotum, similar to the oedema and blood extravasation found in the treated experimental animals, is the failure to maintain descent of the testes and recurrence of the hypoplasia of the testes. In view of this, I have refrained from administering A. P. L. substances, except for from six to eight weeks in dosage of from 100 to 1,000 Rat Units three times a week, as advocated by Thompson, and then most frequently prior to operation.

Other preparations which are indicated in hypo-gonadism and cryptorchidism are the anterior pituitary maturity factors, pregnant mare's serum and male sex hormone. We⁸ recently reported in the *Delaware State Medical Journal* on the administration of male hormone therapy in adult hypogonadism. Male sex hormone offers increasing possibilities in aiding development in the hypo-gonadal state. In young unmarried males dosage should be maintained at five to ten mg. of male hormone because of the rapidity with which the libido and erection are stimulated by it. Male hormone therapy is advocated to control menorrhagia and especially metrorrhagia. In numerous cases, male hormone has produced a marked virilizing effect, namely, hypertrichosis and hypertrophy of the clitoris⁹. This, again, repeats an incident in which the biological activity of the hormone is disregarded in order to overcome a symptom state which can, usually, be controlled otherwise.

Male hormone therapy has, in our hands, proved very valuable in controlling the involutional symptoms associated with the hypo-gonadal state in the male, and corresponds to the therapeutic effect obtained with female sex hormone in corresponding female conditions.

The subject of female sex hormone therapy at the present time is fairly well standardized. The present dosage greatly exceeds that advocated less than five years ago. The reports then made on the beneficial results of administering three rat units of estrogen are an instance of over-enthusiasm and lack of critical judgment that may occur in clinical studies. The dosage of female sex hormone today varies from 500 to 10,000 or more rat

units, depending upon the degree of estrogenic deficiency and, particularly, the degree of atrophy present in the breast, uterus, and vagina. In many cases, symptomatic relief does not occur until normalcy for the age is nearly reached in these intra and extra-genital organs. An exception that may be made to increasing the physiological age of tissue is the administration of comparatively large doses of estrogenic substance to infants with gonorrheal vaginitis. In order to overcome the infection, it is necessary to cornify the cells in the vaginal mucosa, but since this can be obtained in eight weeks, no pronounced or permanent changes in the endocrine interrelationship should occur.

Another endocrine preparation, the adrenal cortical hormone, desoxycorticosterone, is now available. This substance is indicated in cases of adrenal cortical deficiency as it occurs primarily in Addison's disease and, secondarily, in Simmond's disease. The danger of excessive use of this substance has also been stated, in that here again adrenal cortical atrophy occurs when the body receives more of this hormone than is physiologically required. The implantation of tablets of desoxycorticosterone in cases of Addison's disease apparently avoids this sequela. There will be a tendency for desoxycorticosterone to be used in hypotensive cases. If the hypotension is not of an adrenal cortical origin, an adrenal cortical atrophy is likely to result if therapy is maintained.

Parathyroid extract is indicated in cases of tetany due to parathyroid insufficiency. The results with this hormone have been disappointing. The discovery that dihydrotachysterol is most effective in this condition has opened a new field for chemotherapy. The use of parathyroid extract in rarifying bone disease has been found disappointing¹⁰. It should be remembered that parathyroid extract acts through demineralization of bone and, therefore, in fragile diseases of bone this substance is apparently contraindicated.

We may utilize the biological action of endocrine substance when administered in excessive amount in certain disorders where other forms of therapy have failed to give satisfactory clinical results. It is known from the work of Zondek¹¹ that excessive amounts of estrogenic substance inhibit anterior pitui-

tary function. Upon this premise, large doses of estrogenic substances have been administered in acromegaly and in Cushing Syndrome by Laquer and the author¹². The results have been favorable. Such cases should be under close observation during the period of therapy.

We have administered growth hormone to juvenile diabetics with infantilism, although it is stated to be contraindicated because of its blood sugar-raising qualities. The juvenile diabetics with infantilism appear to have benefitted from the growth hormone administration. White¹³, in a very large series of juvenile diabetics with infantilism, comes to the conclusion that the economic benefits obtained by the increase of height and improvement in economic status overbalance the increase in insulin requirement which occurred in many cases.

Our results with growth hormone in cases of infantilism have not been as good as the results obtained by the oral administration of anterior pituitary and thyroid extract in small quantities. In the treatment of infantilism, it is necessary that the preparation be of low gonadotrophic content because premature acceleration of gonadal development will close the epiphysis and prevent further growth. Calcium glycerophosphate should also be administered.

In conclusion, one can almost make it an axiom that endocrine preparations should be administered to cases of endocrine deficiency only in a total amount which does not overtake the existing physiological load of the deficient gland. Excessive administration of endocrine preparations leads to the production of physiological atrophy and increase of the previously existing deficiency of the endocrine gland.

In children, the type of hormone action induced by the preparation should be consistent with the normal age period present or desired in the individual, and all preparations which tend to produce acceleration or precocious growth should be cautiously limited in application and dosage. The production of precocious puberty and development in young children and the virilization of the female sex by the administration of endocrine preparations illustrate quite clearly the untoward and un-

desirable effect obtained by the abuses of endocrine therapy.

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DISCUSSION

DR. MESROP A. TARUMIANZ (Farnhurst): Mr. President, Members and Guests: It would be quite a task to discuss this scientific, well prepared and practical paper. There are no questions which I could ask the Doctor to answer, but I would like to mention the fact that neuropsychiatry and endocrinology are so interwoven that one cannot conceive for even a moment that a neuropsychiatrist will attempt to assume the responsibility of his cases—that means all cases—without considering consultation with well-qualified endocrinologists. And I believe that applies to all physicians.

I also feel that the presentation of this particular paper will give us an impetus, a push toward new ideas, or, rather, a fear of old ideas that one can treat any type of case, whether it is a case of combined difficulties, or a neuropsychiatric or endocrinologic alone.

It seems to me that as far back as thirty years ago, when traveling through Asia Minor and seeing some of our colleagues in that particular country, I found that they had been using endocrines, particularly gonads, for years and possibly centuries. So endocrinology possibly is just as old as the history of medicine. The only variation that we can see today is that there is a true scientific approach towards it.

Since it is true that that is the difference between the former type of approach and the present one, we should not attempt to treat

every case symptomatically. Isn't it only fair that we should attempt to diagnose the cases first and then attempt to create or institute proper treatment? For that reason I feel that a man or woman approaching a general practitioner with some symptoms should not be considered by the general practitioner, or the specialist, such as the neurologist or neuropsychiatrist, from his standpoint alone.

I know of many cases where the endocrinologists have attempted to cure neuroses with endocrine medication, which again, in my judgment, is an absolutely inadequate approach because there are few cases of neuroses where, unquestionably, these endocrine dysfunctions are in existence, but most of them are purely of a psychogenic nature.

You can shoot all the female sex hormone that you want into a man who comes and complains of dysfunction, yet you will not be successful in treatment if the origin of his difficulty is primarily psychogenic. Therefore, I urge the members of the society to consider that endocrinology, as a part of medicine, is unquestionably very important, and one of the oldest branches of medicine, though very little attention has been paid to it except in the last few years. We know that there are only few men in the United States who are paying such vast attention to and have such great interest in this phase of medicine, and we should consult them whenever we feel that we are not positive in our diagnosis.

I believe that the city of Wilmington, with four outstanding hospitals, should have at least one or two endocrinological clinics. We have clinics of all types. I don't see why we don't attempt to create something along the line of an endocrinological clinic which will give our people satisfactory results. Therefore, I suggest that this Society at some time attempt to pass a resolution and send it to the staff of all general hospitals, requesting them to create and establish an endocrinological clinic. I think you will all obtain just as much pleasure and satisfaction in your work as we have since we established our endocrinological clinic two or three years ago. Thank you very much.

PRESIDENT SAMUEL: Dr. Clarence E. Prickett!

DR. CLARENCE E. PRICKETT (Smyrna): Mr. President, Dr. Dunn, Members of the Society:

Dr. Dunn's paper has certainly been most instructive to me. I am sure it has to most of us. It will certainly help us to put on the brakes in the treatment of many of these cases since we are flooded with so much literature on endocrine treatments nowadays.

I would like to ask Dr. Dunn at what age limit he would expect epiphyseal closure to cease.

DR. DUNN: Epiphyseal closure occurs two years earlier in the female than it does in the male. You are pretty near your maximum growth at 18 years in the female and at 20 years in the male. I would say sixteen in the female and eighteen in the male is the age at which you are approaching the end of the active growth period. That is normal. I don't feel it is worthwhile after these ages to give growth hormone therapy to activate growth. They will put on a little growth, but I feel you are likely to disturb the endocrine inter-relationship in the effort to produce a little growth.

In Richmond at a recent meeting a doctor asked me how to make a football player out of his son, then age sixteen. He required weight and height increase. I advised him that by the time he accomplished this with therapy he would have created such an endocrine disturbance that all he would be good for would be a football player. (Laughter)

PRESIDENT SAMUEL: Dr. Dunn, thank you very much for your address.

THE CLINICAL MANIFESTATIONS OF LEUKEMIA*

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Although leukemia is an uncommon and fatal disease, patients suffering with leukemia attract wide attention because of the severe symptoms, the striking physical signs and the marked changes in the laboratory findings. The incidence of leukemia is illustrated by the mortality statistics for the year 1934 in the United States: 3,403 deaths due to leukemia (0.24%) were recorded among a total of 1,396,903 deaths. Although this disease of unknown etiology is eventually fatal, its recognition, prognosis and treatment is important in the practice of medicine.

From the clinical point of view, this disease may be divided into the acute and the chronic leukemias. Leukemia occurs about twice as often in men as in women. Acute leukemia usually occurs under 20 years of age. Chronic leukemia is a disease of adult life which appears in two clinical types: chronic myelogenous and chronic lymphatic leukemia. Chronic myelogenous leukemia occurs most frequently between 25 and 40 years of age; the average duration of life is about 2½ years. Chronic lymphatic leukemia is a disease of old age; the prognosis is about 3½ years, although many patients have a very benign form of the disease that responds well to x-ray therapy and runs a slow course of 5 to 15 years. The outlook in the acute leukemias of early life is only a few months.

The characteristic features of these three types of leukemia may be summarized as follows:

ACUTE LEUKEMIA—Rapid onset of weakness, pallor, sore throat, bleeding gums, enlarged cervical lymph nodes, fever, purpura and many "blast" cells in the blood films.

CHRONIC MYELOGENOUS LEUKEMIA—Progressive weakness and fatigability, pallor, splenomegaly, leukocytosis with myelocytes (eosinophilic and basophilic as well as neutrophilic) and myeloblasts in the blood film.

CHRONIC LYMPHATIC LEUKEMIA—Progressive weakness and fatigability, generalized lymphadenopathy, leukocytosis due to lymphocytes with large numbers of broken white blood cells (smudges) in the blood film.

Less frequently monocytic, eosinophilic or plasma cell leukemias occur. Although the blood cytology of infectious mononucleosis may simulate lymphatic leukemia, the clinical picture need never be confused.

Since the clinical manifestations of the leukemias are so varied, it is necessary to classify the symptoms and signs so that the disease may be recognized in the individual patient. The manifestations of leukemia may be separated into four groups according to the pathogenic mechanism of the symptoms and signs.

I. Hypermetabolism — Fatigue, weakness, nervousness, loss of weight, insomnia, fever, sweating. These symptoms resemble those of hyperthyroidism and often precede the de-

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velopment of definite physical signs of leukemia.

II. Pressure of leukemic tumor masses or infiltrations—an endless variety of symptoms and signs are produced according to the structures encroached upon.

Peripheral Nerves: pain, paresthesia, paresis, flaccid paralysis.

Central Nervous System: spastic paralysis, convulsions, tremor.

Veins or Lymphatics: edema, cyanosis.

Mediastinum: dyspnoea, cough, superior cyanosis and edema, dysphagia, Horner's syndrome.

Liver: epigastric distress after meals, right upper abdominal pain, jaundice, ascites, hemorrhoids, edema of the legs.

Spleen: dragging sensation in the left upper abdomen, early satiety at meals, abdominal distention and cramps, constipation.

Retro-peritoneal: lumbar pain, abdominal cramps, diarrhea, constipation, abdominal distention, oliguria, nocturia, hematuria, varicocele, hydrocele.

Skin: pruritis, bronzing, nodules.

III. Myelophthisis (replacement of bone marrow by leukemic tissue)—Anemia: fatigue, weakness, palpitation, vertigo, dyspnoea. Neutropenia: fatigue, weakness, stomatitis, pharyngitis, proctitis, fever, prostration. Thrombocytopenia: purpura, bleeding from mucous membranes, shock of massive hemorrhage.

IV. Cachexia of the terminal stages of the disease.

The case of Mrs. L. S. illustrates some of these symptoms and signs during the third trimester of pregnancy.

CASE REPORT. A 21-year-old white woman was admitted to the Temple University Hospital on the Obstetrical Service of Dr. J. O. Arnold on March 19, 1937.

Present Illness. Four months ago she had consulted her family physician because of nausea, flatulence, amenorrhea of indefinite duration and swelling with tenderness of her breasts. The uterus was found to extend almost to the umbilicus. Three months ago she fell down stairs; she was confined to bed and treated with opiates because of threatened abortion. Pain and tenderness persisted over the sacrum and x-ray examination revealed a fracture of the sacrum without displacement

of the fragments. She remained in bed on a Bradford frame for 1 month. Two months ago she was up wearing a sacro-iliac belt, but weakness was progressive and she complained of numbness, tingling and coldness of the extremities and dyspnoea and palpitation on exertion. Pallor became striking and blood counts revealed a progressive anemia in spite of a rich diet and the oral administration of iron and liver extract. Three weeks ago 3 transfusions were given without improvement.

Past History. Measles, varicella and questionable poliomyelitis occurred in childhood. The patient has always been active but has never been strong and she has remained pale and thin for many years in spite of a large appetite. Tonsillectomy was performed at 10 years of age because of repeated sore throats. Menstruation commenced at 11 years of age; periods have been regular with an interval of 28 days, a duration of 4 days and with cramps and profuse flow during the first 2 days. Two previous pregnancies—5 and 1½ years ago—manifested no abnormalities during gestation and were terminated by normal spontaneous deliveries. Bleeding hemorrhoids followed the second parturition for several weeks. Curettage of the uterus was performed 2½ years ago because of weakness and pallor associated with menorrhagia. The patient lives in difficult economic circumstances.

Physical Examination. T 98.8°, P. 90, R 22, BP, 100/60. The patient was a small, asthenic woman who appeared weak, undernourished and listless. Pallor of the skin and mucous membranes was striking in contrast to the gestational pigmentation of the breasts and eyelids. The ocular fundi showed fullness of the retinal veins and 1 linear hemorrhage containing a white center. The gums were tender and spongy; excessive granulation tissue was present at the site of a molar tooth extracted 7 weeks ago. Petechial hemorrhages were present on the buccal mucosa and the pharynx. The nose contained dried blood. Petechial hemorrhages were also present over the abdomen and the left arm. The cervical, axillary and inguinal lymph nodes could not be felt. The chest was asymmetrical associated with a rotoscoliosis of the spine. The lungs were clear. The heart was not enlarged and no abnormalities of the sounds were present.

The uterus extended to 3 finger-breadths below the xiphoid process. The liver and spleen could not be palpated. There was slight pretibial edema. The tendon reflexes were not abnormal.

Laboratory Examinations. The urinalysis showed nothing abnormal and the blood Wassermann reaction was negative. The blood

showed: hemoglobin 5.75 grams (36.8%); RBC 2.61 million; WBC 20,350; differential leukocyte count—neutrophils 19% (non-filamented forms 11%, filamented forms 8%), myelocytes 5%, myeloblasts 35%, lymphocytes 37%, monocytes 4%, platelets 21,500; bleeding time 2 minutes, coagulation time 5¼ minutes; blood group III (Moss).

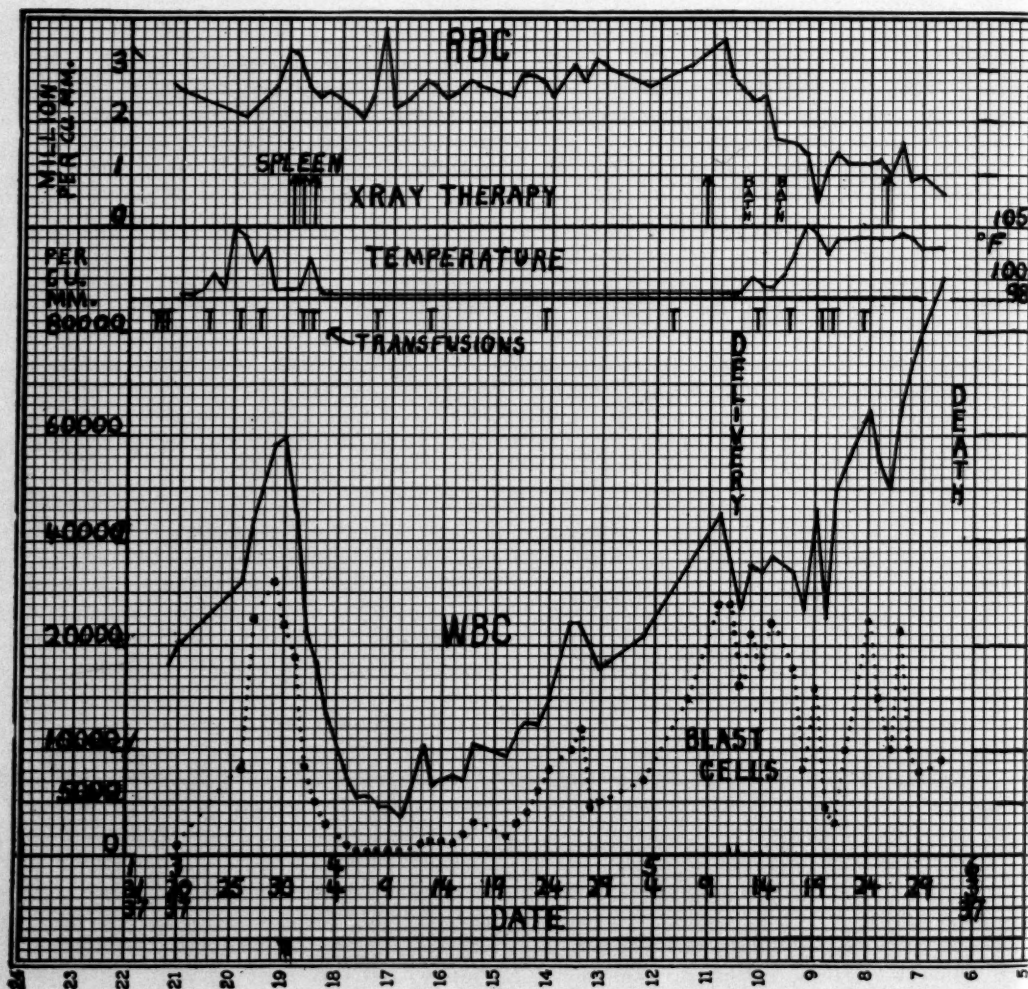


Chart 1. Mrs. L. S. Correlation of the red blood cell count (top line) in million per cubic millimeter with body temperature in degrees Fahrenheit and the white blood cell count and the absolute number of myeloblasts (bottom dotted line) per cubic millimeter of blood. X-ray therapy is recorded by the arrows and the word "bath" and transfusions (1 pint each) by the tall T's.

Chart 1. Mrs. L. S. Correlation of the red blood cell count (top line) in million per cubic millimeter with body temperature in degrees Fahrenheit and the white blood cell count and the absolute number of myeloblasts (bottom dotted line) per cubic millimeter of blood. X-ray therapy is recorded by the arrows and the word "bath" and transfusions (1 pint each) by the tall T's.

Course. Chart 1 shows the clinical course. Marked symptomatic improvement followed repeated transfusions and 3 x-ray treatments of 50 roentgens each applied to the splenic area. Epistaxis and purpura ceased and the leukemic retinitis resolved. Except for febrile reactions following the first 4 transfusions, the patient felt progressively better. April 16th she complained of a stuffy sensation in her nose and a feeling of fullness with impaired hearing in the left ear. Examination of the eardrum and the external auditory canal revealed nothing abnormal. On May 4th nasal obstruction, sore throat, cough with mucoid sputum and substernal rawness developed. These respiratory symptoms persisted until an easy spontaneous delivery occurred on May 11th; the infant was in good condition and developed normally; examination of the infant's blood revealed no abnormalities. Following delivery the patient's pallor and weakness became severe and fever and a dry cough appeared. On May 19th the red blood cell count dropped to 500,000 per cubic millimeter in spite of transfusions and an oxygen tent was necessary to sustain life.

Following the initial decrease in the leukocyte count to 4,000 per cubic millimeter on April 10th with a decrease in the absolute number of myeloblasts to 1,500, the leukocyte count had shown a progressive increase to about 30,000 at the time of delivery; about 60% of these white blood cells were myeloblasts. A 50 r dose of x-ray radiation was given to the splenic area 3 days before delivery without appreciable effect on this abnormal leukocyte picture. On the first and fourth post-partum days reontgen baths of 20 r each were given to the anterior surface of the body. Although the number of immature leukocytes decreased following this general irradiation, this decrease was very transient and the total white cell count steadily increased. A breast abscess appeared 6 days be-

fore death associated with a marked neutrophilic leukocytosis that reached 30,000 mature neutrophilic leukocytes per cubic millimeter of blood on the third day before death. This ability of the patient's leukemic blood forming tissue to produce mature pus cells in response to a definite infection in the breast is worthy of comment. Furthermore, in spite of a total leukocyte count of 90,000 with 22% of polymorphonuclear leukocytes at the time of death, the erythrocyte count was less than 1 million. This patient died with a severe myelophthisic anemia associated with sepsis and a neutrophilic leukocytosis.

Autopsy revealed pallor, congestion and multiple hemorrhages of all organs; fatty degeneration of the liver and heart; gangrenous endometritis; a large breast abscess; multiple small infarcts of the spleen and myelogenous metaplasia of all tissues. The duration of the leukemia was only 3 months in a pregnant woman. She was carried to term and delivered of a normal infant. The severity of her anemia throughout her course was the outstanding feature of a case that did not show splenomegaly either during life or at autopsy (275 grams). The short duration, the absence of splenomegaly and the large number of myeloblasts in the blood place this case in the category of acute (myelogenous) leukemia. The tendency to menorrhagia and pallor in a thin, active woman with a large appetite might suggest that her disease was of many years duration. The trauma of the fall and the pregnancy may have been precipitating factors.

In adults, the clinical picture of acute leukemia often suggests agranulocytic angina in its sudden onset of weakness, fever and severe oro-pharyngeal infection. In the absence of a leukocytosis, the differential diagnosis may be difficult even in the laboratory. The presence of anemia, as in the case of Mrs. L. S., suggests leukemia; the presence of "blast" cells in the blood films is diagnostic of leukemia especially if these very immature cells are more numerous than the myelocytes. The distinction is important practically because the prognosis of agranulocytosis is better than for leukemia and because agranulocytosis should be treated actively with injections of pentnucleotide and dilute liver extract as well as with daily small transfusions.

In leukemia, large transfusions and roentgen therapy are indicated.

Aleukemic leukemia is that type or stage of leukemia in which leukemic changes are present in the tissues but leukemic cells do not appear in the blood films in sufficient numbers to be detected. Aleukemic leukemia should be suspected in patients with severe, unexplained anemia with a color index of about 1.0, purpura not relieved by transfusions, necrotic gingivitis, unexplained splenomegaly or lymphadenopathy, arthralgia without objective signs about the joints, leukopenia with an increase in the number of young (non-filamented) neutrophils in the absence of fever, elevated basal metabolic rate without fever or goitre. Wherever biopsy of the sternal bone marrow or of an enlarged lymph node is not feasible, obtain 10 cubic centimeters of venous blood in an oxalated tube to prevent coagulation; centrifuge this blood until the cells have settled to the bottom of the tube; decant the supernatant plasma and prepare smears of the buffy coat. This places on the glass slide a much larger number of leukocytes than appear on a film prepared from whole blood. This slide is allowed to dry and is stained in the usual manner. With the low power objective of the microscope, search for large leukocytes and then identify these large cells under higher magnification. In this way immature and abnormal leukocytes may be found when they are present in the blood in very small numbers.

3401 North Broad St.

HEREDOTRAUMATIC KYPHOSIS OF BECHTEREW

HENRY G. HADLEY, M. D.,
Washington, D. C.

This is due to a vertebral traumatism occurring in the subjects of hereditary kyphosis. The dorsal spine is progressively deformed and constitutes a fixed curve with a short radius. There is a progressive widening of the thorax and the pathology is due to an ossification of the anterior longitudinal band.

There is a progressive compression of the disks which causes the anterior part to be thinner in front than in the rear. The ligaments and muscles become adapted to this incurvation and fixed in their shortening. A

compensatory lordosis is developed and as the back is displaced "en bloc," the head must be carried forward. The thorax becomes limited in its ability to aerate the lungs and there is a susceptibility to emphysema and pulmonary infection. These deformities of the chest have an etiological relation to heart disease as the strain on the right side of the heart is increased by the kinking of the vessels.

Bechterew's¹ first case in 1893 had a mother, sister and daughter with the same condition. Marie and Astie² found it also in a father and sister of a patient and Weil and Allolio³ found it present in two brothers. Geilinger⁴ in 1918 found one family having a brother, uncle, aunt and grandmother with this disease, but in five other families, there was only the one case.

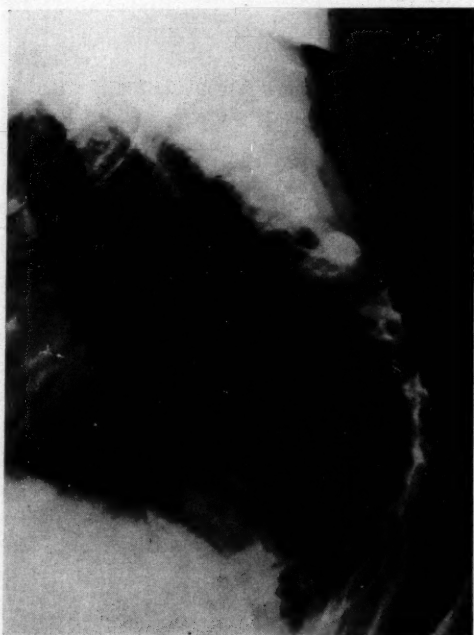
Keinbock⁵ believes that it is tuberculosis in nature of an exudative synostosing variety. In 1930, Fischer and Vontz⁶ found in 100 cases, only one familial instance with two brothers with Bechterew disease whose father had a spinal arthritis.

Kober⁷ found in frequency studies that in 25,263 orthopedic patients at Frankfurt University Orthopedic Clinic, there were 34 cases or .13 per cent. Bachman⁸ in 3,201 X-ray studies found .66 cases of 2.2 per cent. Schmorl⁹ in 10,000 postmortem examinations found .06 to .08 per cent or 6 to 8 cases. Ehrlich¹⁰ in 1930 found one case in 753 whose father had rheumatism and whose mother had arthritic joints. Geilinger⁴ in 1918 found one family in which a brother, an uncle, and aunt and a grandmother had the disease while in five other families, there were no other cases.

Most cases occur between 20 and 35; the average of Ehrlichs' cases was 25 and those of Claussen and Kober 30.5 years. This group falls later than the acute joint rheumatism and earlier than the chronic forms of arthritis. Claussen and Kober⁷ reviewed the history of 10 families in which there were two or more cases. In these family groups, there were many other cases of chronic arthritis, rheumatic polyarthritis and neuritis. There was a history of infections of various kinds such as chronic tonsillitis or osteomyelitis while there was no definite history of injury in any of these cases.

It would appear that this form of arthritis of the spine appears in susceptible individuals

after trauma, exposure or infection and that it differs from other forms of arthritis only in its predilection to the spine and the kyphotic curvature which results. Its appearance in more than one person in a family follows an increased susceptibility to rheumatic infection in certain families due to heredity and environment. In tuberculosis, tumor, tabes or osteomyelitis, trauma plays a minor role and no doubt in this traumatic form of kyphosis, the same is true.



Case Report:

Mrs. M. G., aged 49, was first seen on January 24, 1939. X-ray showed fusion of the anterior surface of the seventh, eighth and ninth thoracic vertebrae. She attributes this to a fall that she had when a child since it had become progressively more pronounced since childhood. There are no hereditary tendencies.

1252 Sixth St., S. W.

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Delaware Pharmaceutical Society June 1940

The Delaware Pharmaceutical Society and their Travelers' Auxiliary will hold their fifty-fourth annual convention at the Hotel Henlopen, Rehoboth Beach, on Thursday and Friday, June 27 and 28.

Thursday afternoon will be given up to bowling with dancing and entertainment in the evening.

Friday the Society will get down to business, with reports from the various committees and consideration of new business. The speakers for the business meeting will be the Honorable Theodore Christianson, Public Relations Counsel for the N. A. R. D., and Dr. Ivor Griffith, Dean of Pharmacy of the Philadelphia College of Pharmacy and Science. These gentlemen will speak upon subjects of vital importance to pharmacists.

The entertainment features are being taken care of by a large committee of the Travelers' Auxiliary. These features consist of bowling, cards, vaudeville, dancing, etc. There will be no dull moments.

Special rates for the two-day period, beginning with lunch on Thursday and ending after breakfast on Saturday, will be available.

Walter E. Brown, of Wilmington, is president.

THE CASE FOR PRIVATE PRACTICE

"In the issue for May of *Nation's Business* appears a special supplement entitled 'The Case for Private Medicine.' " *The Journal of the American Medical Association* for May 11 says:

"It is a twenty-four page story of the campaign that has been waged in recent years to force the medical profession into regimentation, and of the manner in which this campaign has been combated by the medical profession. It discusses also the state of health of the nation, and the reasons why medicine in a democracy should not be submitted to bureaucratic control. The supplement called 'The Case for Private Medicine' is the fifth of a series which this magazine has been making available, the previous supplements covering 'Insurance,' 'Investment Banking,' 'Power and Light' and 'Distribution.' Reprints of the pamphlets covering 'Distribution' and 'The Case for Private Medicine' are available through the *Nation's Business* at 10 cents a copy or \$6 a hundred, which just about covers the cost of printing. Every physician should become familiar with this item; it may be had by writing to the *Nation's Business*, United States Chamber of Commerce Building, Washington, D. C. This periodical, which incidentally, is the official organ of the Chamber of Commerce of the United States, itself circulates 350,000 copies to members of that organization.

"In presenting this article the *Nation's Business* provides first an adequate statement under the title 'Give the Doctors a Hand,' pointing out that it is the duty of commerce to aid medicine in resisting the march of collectivism. The article as a whole is prefaced by the statement made by Prince Otto von Bismarck, the father of social insurance, who said:

"A beginning must be made with the task of reconciling the laboring classes with the state. Whoever has a pension assured to him in his old age is much more contented and easy to manage than the man who has no such prospect. Compare a servant in a private house and one attached to a Government office or to the Court; the latter, because he looks forward to a pension, will put up with a great deal more. . . ."

"There are also numerous illustrations and a wide variety of quotations from writings that have been published on the subject.

Everyone will find this the most interesting document that has yet been made available in medicine's campaign for freedom."

THE FIVE DAY TREATMENT OF SYPHILIS

In order that there may be a central source of information with regard to studies of the intravenous drip method of treatment of syphilis ("the five day treatment"), the American Social Hygiene Association at 50 West 50th Street, New York, has been asked to gather and to keep available information regarding this subject. The Association requests all physicians and hospitals which are planning or are now carrying on studies of experiments with this method of treatment of syphilis to send brief information regarding the following points to the Association at the above address:

1. Name of hospital or other institution.
2. Name of principal physician in charge of the intravenous drip study.
3. Type of case or cases of syphilis treated by the intravenous drip method.
4. Name of drug or drugs used.
 - (a) By the intravenous drip method
 - (b) By any other method before, during or after intravenous drip therapy. (Mention any specific therapy used).
5. Routine laboratory work done on cases of syphilis treated by the intravenous drip method.
6. Usual number of hours of intravenous drip treatment per day per patient.
7. Usual number of days of intravenous drip treatment per patient.
8. Any other pertinent facts.

The Association will be glad, so far as possible, to answer inquiries regarding the intravenous drip treatment of syphilis. The Association has available to physicians, upon request, a brief pamphlet on the subject of the present status of the intravenous drip method of treatment of syphilis, written by Dr. Charles Walter Clarke, Executive Director of the Association and a member of the New York City Committee on the Intravenous Drip Treatment of Syphilis.

EDITORIAL

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JUNE, 1940

No. 6

THE UNFINISHED SYMPHONY

Clearing out a file the other day we happened upon two letters from London, received over a year ago but which apparently got lost in the shuffle. In retrospect, it may be worth while to print them, even at this late date. Here they are:

26, York Terrace,
N. W. 1.
3rd May, 1939.

Dear Sir:

As the medical profession is responsible to a large extent for the prevention of disease and suffering, the Medical Peace Campaign considers that doctors should take what measures they can to prevent war. The Committee has therefore drawn up some practical proposals which, in the form of the accompanying statement, it addresses to members of the medical profession throughout the world, so that they, if they so desire, may support these proposals and use their influence to see that they are put into effect.

The Committee is anxious that this statement should reach as many doctors as possible and would be very grateful if you could find space in your columns to print it.

Yours faithfully,

Mary T. Day, Hon. Sec.
MEDICAL PEACE CAMPAIGN.

London,
3rd May, 1939.

Statement from the Medical Peace Campaign to Members of the medical profession throughout the world:

Realizing the suffering and disease which are caused by war, and accepting our medical responsibility to prevent disease as well as to treat it when developed, we urge the governments of the world to take action to make war impossible.

In particular we suggest that, in order to combat the present emergency, Great Britain, France and Russia should declare that they stand united and determined to resist all further aggression, by military force if necessary; and that the governments of these countries should invite all other countries, irrespective of their form of government, to associate themselves with this declaration.

We maintain that the only way to eliminate all possibility of future war is the establishment of the rule of international law, based on the principles of justice to all and backed, so long as this remains necessary, by overwhelming military and economic strength. To this end we urge that a conference be called to discuss the practical measures which should be taken.

Finally, as an organization representative of medical opinion and regarding medicine as the most international and humane of all professions, we would remind our colleagues in all countries of the great part which they may yet play in influencing public opinion on behalf of peace.

Signed on behalf of the Medical Peace Campaign

JOHN A. RYLE, President.

When we consider that these letters were written after Munich but before Poland, the perspicacity and foresight of the British physicians seems truly remarkable. Would that their government had had the same vision! For Russia was then, is now, and for a long time to come will be the crucial factor in the outcome of this war. But, no! Because of the fundamental differences in ideologies, the stiffnecked umbrella man and his satellites, with a few notable exceptions, would have nothing to do with Russia, the only power whose friendship could have halted the crazed actions of the Teutonic Furor, whose father never knew who his father was!

Russia, frozen out of the Munich Conference and longing for general recognition as a great world power, could have and should have been wooed by the Allies; instead,

snubbed as she was, she was literally forced into Hitler's lap, thus assuring this latter megalomaniac that, come war, he would have to fight on only one front instead of on two. Some diplomacy! Had a Russo-Allied Entente been reached, there would have been no Finnish War, since what Russia wanted from Finland and the other small Baltic states was military bases from which she might defend herself from the inevitable aggression of her German friend (?) whose *Mein Kampf* plainly states that the Russian Ukraine is among the tidbits he wants.

But why go on and on with the things that might have been? Today, these same British and their Allies are knocked down, but they are *not* knocked out: they may rise at the count of nine to hand their tormentor and his second-fiddle vulture a haymaker and even yet win the decision. The point of all this is that the physicians of Britain made a correct diagnosis and foresaw their imminent danger—their government did not; the physicians of Britain outlined a correct (perhaps the only correct) treatment—their government did not; and the physicians of Britain were willing to fight, if need be, for the preservation of peace—their government was not: not for another four months.

Would to God that some of the politicians had the brains and intestinal fortitude of some of the physicians!

Do you read the editorials? Or do you read the ads? If the latter, do you clip out the coupons for samples or literature? If you don't, how can our advertisers know that you read the ads? And if they think you don't read the ads, there'll be no ads, and—no ads, no Journal!

MISCELLANEOUS

American College of Surgeons Manual of Graduate Training in Surgery

Pursuant to its aim of raising the standards of surgery, the American College of Surgeons has published a 24-page "Manual of Graduate Training in Surgery" in which are incorporated the requirements for its approval of programs of training in general surgery and

the surgical specialties in hospitals of the United States and Canada.

The "Manual" is the outcome of ten years of study of educational programs in surgery by the Board of Regents and several committees of the College. In 1937 a Committee on Graduate Training in Surgery was established under whose direction the field staff of the College personally surveyed a selected group of hospitals in connection with the work of the Hospital Standardization Department. Based on the findings of these surveys, "Fundamental Principles and Criteria" were developed which have been applied in evaluation of plans for graduate training in surgery. The plans of 179 hospitals have so far been approved by the College. The new "Manual" is an elaboration of the "Fundamental Principles and Criteria" and will in the future be applied in determining eligibility for the Approved List to be published in the Approved Number of the College Bulletin in October of each year.

The College recognizes three principal types of institutions as offering acceptable programs of graduate training in surgery: (1) universities or teaching hospitals supervised by departments of surgery of medical schools and graduate schools; (2) fellowships in recognized clinics and other organized groups; and (3) selected hospitals which by utilizing their own facilities to the fullest are able to carry acceptable programs through to completion, or which have supplemented their educational program, particularly in the basic medical science, through affiliation with medical schools and graduate schools.

The Minimum Standard for Graduate Training in Surgery which is included in the new "Manual" comprises five clauses, concerned with (1) duration and objective of the program; (2) organization and supervision; (3) basic medical sciences; (4) clinical material and (5) organized study.

Under the requirements, an acceptable program requires a minimum of two and preferably three or more years of training in surgery, beyond at least one year of general internship. Such preparation is now necessary in order for an applicant for fellowship in the American College of Surgeons to meet the qualifications in respect to training, as set

forth in the following resolution passed by the Board of Regents on May 10, 1936:

"Applicants for fellowship whose qualifying medical degree shall have been obtained after the date of January 1, 1938, shall be required to present evidence of having completed three years of hospital service in one or more acceptable hospitals, of which two years shall have been spent in training in surgery in hospitals approved by the American College of Surgeons. In the case of graduates of medical schools which withhold the medical degree until after the fifth year of hospital internship, the date set will be January 1, 1939."

Dr. Dallas B. Phemister, Chairman of the Department of Surgery, University of Chicago School of Medicine, is chairman of the Committee on Graduate Training in Surgery; the other members are Dr. Donald C. Balfour of Rochester, Minn.; Dr. John R. Fraser of Montreal; Dr. Albert C. Furstenberg of Ann Arbor; Dr. W. Edward Gallio of Toronto; Dr. Harry S. Gradle of Chicago; Dr. Evarts A. Graham of St. Louis; Dr. Howard C. Naffziger of San Francisco; Dr. Gilbert J. Thomas of Minneapolis, and Dr. Allen O. Whipple and Dr. Phillip D. Wilson of New York City. Much of the field work and direction of the study has been carried on by Dr. Harold Earnheart, assistant director of the College, in collaboration with Associate Directors Bowman C. Crowell and Malcolm T. MacEachern.

Leonard Wright (1589) in *Display of Duties* "In a good surgeon a hawk's eye, a lion's heart, and a lady's hand."

Cancer Foundation at U. of P.

Establishment of a Foundation for the study of the treatment of cancer which will make the University of Pennsylvania an important center for the collection and utilization of vitally needed information in this field, was announced recently by Dr. Thomas S. Gates, president of the university.

Known as the Foundation for the Study of Neoplastic Diseases, this new program is made possible and will be supported by the Penn Mutual Life Insurance Company for a period of five years.

Cancer is the second highest contributor to

the mortality statistics of life insurance companies, both in number of deaths among policy holders and in total amount of death claims. It is exceeded only by heart disease in this respect.

The Foundation will be under the immediate direction of Dr. John S. Lockwood, who will have the cooperation of all chiefs of service in the University Hospital. It will coordinate methods of diagnosis and methods and results of treatment in such departments of the University Hospital as those of medicine, surgery, gynecology, ophthalmology, otolaryngology, dermatology, gastro-enterology and radiology. It will thus facilitate a wider utilization of research upon which millions of dollars have been spent.

"Humanity has won its greatest medical battles against contagious diseases," Dr. Gates said, "but much remains to be learned about the degenerative diseases, such as heart disease and cancer, which are the present chief causes of death. Through the Foundation for the Study of Neoplastic Diseases which the Penn Mutual Life Insurance Company has established at the University of Pennsylvania, we hope we may be able to make some contribution to the study of the treatment of cancer.

"This pioneering step looks not only to the health of the policy holder but also to that of humanity generally. This cooperation between a life insurance company and a university medical school has much significance; it will help to reinvigorate research in this country which must accept the challenge of the intellectual blackout in Europe."

In a statement explaining his company's viewpoint in initiating this Foundation, John A. Stevenson, president of the Penn Mutual Life Insurance Company, said:

"We consider this project a wise investment. We are fortunate in being able to cooperate with the great medical center at the University of Pennsylvania in undertaking such an important activity for a comparatively modest outlay on our part. It is an allocation of funds to help solve one of the major problems in lowering the national mortality rate, for cancer ranks second as a cause of death among our policy holders. Naturally, if the mortality rate from cancer is reduced for the

country as a whole, Penn Mutual policy holders will profit.

"Thus it is distinctly a businesslike move by our company. It is important, I believe, in showing that the life insurance business can draw a direct profit from investments in medical research. I am only sorry that we did not take advantage of similar opportunities earlier. It would give me great satisfaction to feel that life insurance companies had contributed to such life-saving discoveries as insulin and sulfanilamide. No institution in the United States benefits from life-saving discoveries as much as does the institution of life insurance. We should do more all the time to promote this work."

Reports Hospital Increase Due to Insurance Needs

Chicago—Hospital insurance plans have caused an increase in the number of registered hospitals throughout the country, the American Medical Association's annual hospital survey reveals.

Hospital insurance plans, it is explained, affiliate only with the A. M. A., registered hospitals. This has stimulated formerly unregistered hospitals to improve their services, equipment and personnel and to increase their capacity to receive registration as evidence of qualifications to serve the sick and injured."

Total number of registered hospitals is now 6,226, with a bed capacity of 1,195,026. Of these, 2,354 hospitals are approved by the American College of Surgeons.

Patients entered hospitals during the year 1939 at the rate of one patient every 3.2 seconds. Total number of patients admitted during the year was 9,879,244.

Almost one-half of America's 1939 baby crop was born in hospitals, the number being 1,099,713.

States having least hospital facilities are Mississippi and Arkansas, with 1.6 beds per 1,000 population. The District of Columbia has the most facilities, with 9.7 beds per 1,000 population, but it is pointed out that many of these serve not only District residents but also Federal employes throughout the country.

Hospitals for patients suffering mental and nervous disorders increased from 592 to 600

during the year, with an increase in capacity from 591,822 to 606,284. The capacity of these hospitals, however, is still inadequate to accommodate those who should enter such hospitals.

Commenting on relationship facilities to their use, the report states:

"Hospital facilities obviously are most used where they are most abundant and where the ratio of beds to population is lowest the rate of occupancy is also lowest. In other words, hospitals have been built in response to a community demand and have not, as a rule, been built where there is no demand." *Victor News*, April, 1940.

Summer Nautical Course on Training Ship

The American Nautical Academy, National Training School for Merchant Marine Officers, Washington, D. C., announced recently that boys and young men between the ages of 11 and 21 years will be allowed to secure practical ship experience on board a training ship of the Academy within the period from July 1, to October 1, 1940.

The young men may remain on board ship for the entire period, or for any shorter time they may wish, but not for less than a month.

Students who enter for any period less than the full course will receive instruction only in those subjects being taught while the student is on board ship.

The purpose of the course is: First, as a foundation for those who wish to become officers in the Merchant Marine, and devote their lives to a career in the service; secondly, for those boys and young men who, though not desirous of following the sea, still wish to obtain a general knowledge of ships and the life afloat.

There is no charge for instruction nor for living quarters on board ship. The only required expense is for meals, which are 49 cents. Three meals are served daily.

There is no tuition charge for any of the courses offered by the Academy; and no obligation for future merchant marine, military or naval service of any kind is incurred by the young men.

On Sundays the cadets will be allowed to attend divine services at the churches of their respective denominations on shore. While on

board ship cadets will receive free minor first aid treatment when necessary.

This is the eleventh annual summer course offered by the Academy and will be under the personal supervision of the Captain Commandant of the Academy who will be in command of the vessel.

During the summer course this year the training ship will be stationed at a New England port.

While on board ship the students will follow the regular daily ship routine, and will be given practical instruction in nautical subjects, including seamanship (ship's work), signaling, rowing, handling, and the use of motor boats, life-saving and naval drills.

Many of the duties on board ship are performed by the cadets as part of their training.

Cadets will also receive instruction in the use of life buoys, first aid, the compass, log, and lead, ground tackle, and the duties of lookouts, as well as the duties of the watch on deck.

Due to the fact that the number of accommodations available is limited, those wishing to take advantage of this opportunity should write at once to the American Nautical Academy, National Training School for Merchant Marine Officers, Washington, D. C.

BOOK REVIEWS

Chemotherapy and Serum Therapy of Pneumonia. By Frederick T. Lord, M. D., Emeritus Clinical Professor of Medicine, Harvard Medical School; Elliott S. Robinson, M. D., Director, Division of Biologic Laboratories, Mass. Dept. of Public Health; Roderick Heffron, M. D., Medical Associate, Commonwealth Fund. Pp. 174. Cloth. Price, \$1.00. New York: The Commonwealth Fund, 1940.

This is a handbook on the diagnosis for treatment of various forms of pneumonia covering both chemotherapy and serum therapy, and contains fifteen chapters and twelve tables, one appendix, and index; no illustrations. This handbook is of great value for rapid reference in the recent methods of treating pneumonia. One very advantageous chapter is devoted to the precautions to be taken prior to serum administration. The chapter chemotherapy contains many hints of prognostic value. Attached to Appendix C is a brief summary of instructions for the use of sulfaphyridine and anti-serum in pneumo-

coccus pneumonia, giving the indications for the use of the drug alone, the drug combined with serum, and of serum alone, with instructions and regulation of the dosages. The book is recommended highly as a brief reference work for those either interested in or treating this disease.

Introduction to Medicine. By Don C. Sutton, M. D., Associate Professor of Medicine, Northwestern University. Pp. 642, with 144 illustrations and color plates. Cloth. Price, \$3.25. St. Louis: C. V. Mosby Company, 1940.

This book for students of nursing has been well written. It strikes a very modern note, in that the psychological and social service aspects of nursing are incorporated with a practical review of the fundamentals of medicine.

It should also be a great aid to instructors in medical nursing because of its concise presentation of the symptoms, courses and complications of the various diseases.

Minor Surgery. By Frederick Christopher, M. D., Assistant Professor of Surgery, Northwestern University. Fourth Edition. Pp. 990, with 639 illustrations. Price \$10.00. Philadelphia: W. B. Saunders Company, 1940.

We reviewed the first edition of this book in 1929. It then contained 694 pages, 465 illustrations, divided into 24 chapters. It was then the best American book on minor surgery. It still is, only more so. These same 24 chapters have been expanded by nearly 50 per cent in pages and much more in effect, as certain older material has been deleted and a great mass of new material has been added, making the text thoroughly up to date. The concluding chapter on "The Surgical Intern" is a classic, discussing everything except medico-legal and workmen's compensation matters. We repeat: it is still the best book in its field.

Graduate Medical Education in the United States. By the Council on Medical Education and Hospitals of the A. M. A. Pp. 243. Paper. Chicago: A. M. A., 1940.

This is a reprint of articles appearing in the *Journal of the A. M. A.* from April, 1937, to February, 1940, and relates the plans of the various state medical societies for continua-

tion studies for practicing physicians. This assembling of the latest data on these society refresher courses, university extension courses, etc., is most interesting and instructive: it is indispensable to those who are planning such courses for the first time.

The March of Medicine. By various authors. Pp. 168. Cloth. Price, \$2.00. New York: Columbia University Press, 1940.

This little book constitutes Volume IV of the New York Academy of Medicine Lectures to the Laity, representing the lectures for 1938 and 1939. Gathered together here in book form, they make an exceedingly entertaining volume. In content they range from the subject of health in Elizabethan England to the romance of modern surgery. And while this work is sufficiently authoritative to prove of value to medical men implemented and enriched with a knowledge of the history of their profession, it is sufficiently simple and clear to prove of special value to those who have a marginal interest in medicine, such as biology teachers, health educators, instructors in physical education, nurses, scientists, and technicians. In fact, the lectures are so well

done that all readers will find them highly intelligible. The book is recommended to all who would like to know how medicine has kept pace with and contributed to modern civilization.

The lectures are: (1) From Folkways to Modern Medicine, by Walter C. Alvarez, M. D.; (2) Health in Elizabethan England, by Sanford V. Larkey, M. D.; (3) Not So Long Ago, by Cecil K. Drinker, M. D., Sc. D.; (4) The Romance of Modern Surgery, by Charles Gordon Heyd, M. D.; (5) The Story of Insanity, by R. G. Hoskins, M. D.; (6) The Cinderella of Medicine, by Karl A. Menninger, M. D.

The Unconquered Enemy. By Boris Soko-
loff, M. D. Pp. 198. Cloth. Price, \$1.75.
New York: Greystone Press, 1940.

This book on cancer is the ninth opus of this Russian writer, for lay consumption. This latest offering conforms to the usual arrangement and content of such works, though it does contain brief sketches of medical research in popular form, that are not frequently included in books for the laity. On the whole, we found the book quite readable.

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*"Treatment of Acute Anterior Urethritis with Silver Picrate," Knight and Shelanski, AMERICAN JOURNAL OF SYPHILIS, GONORRHEA AND VENEREAL DISEASES, Vol. 23, No. 2, pages 201-206, March, 1939.

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